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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,017	06/29/2006	Shigenobu Ikenaga	1155-0286PUS1	8055

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EXAMINER
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LU, C CAIXIA

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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11/14/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

Application No.

10/550,017

Applicant(s)

IKENAGA ET AL.

Examiner

Caixia Lu

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 2-9, 11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Continued Examination under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on October 3, 2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai et al. (EP 1 138 687).

Kawai teaches that propylene copolymer comprising 50-99.5 mol% of propylene and 50-0.5 mol% comonomer prepared in the presence of a metallocene catalyst and Kawai's Examples 37-42 demonstrate the preparation of propylene/butene copolymer in the presence of a metallocene catalyst, dimethylmethylene(3-tert-butyl-5-methyl-cyclopentadienyl)fluorenyl zirconium dichloride, wherein the T<sub>m</sub> is in the range of 73-108 °C and intrinsic viscosity is in the range of 0.89 to 3.56 dl/g (pages 8-9, [021] and [0022]; and pages 237-238, Examples 37-42). It is noted that as the amount of butene comonomer increased, the T<sub>m</sub> of propylene-butene copolymer decreases almost proportionally by comparing Examples pairs of 37 (102.7°C) and 38 (73.6°C), 39

(108.1°C) and 40 (80.0°C), and 41 (100.7°C) and 42 (90.6°C) respectively. This is because as the amount of butene monomer increase in the reaction media, the amount of butene incorporated in the propylene copolymer increases, the regularity and the length of propylene blocks in the copolymer decrease, thus, the  $T_m$  controlled by the regularity of propylene blocks in the copolymer decreases. Therefore, one would have expected that as the amount of butene monomer increases, the amount of butene incorporated to the copolymer increases, and the  $T_m$  of the copolymer decrease. When the percentage of the butene in the polymer is higher than that of Kawai's Example 38, Kawai's propylene/butene copolymer are expected to have  $T_m$  lower than 73.6°C, and when percentage of the butene in the polymer is high enough, the corresponding  $T_m$  of the copolymer would be in the range of 40-66.5 °C of the instant claims because Kawai's polymerization is conducted under substantially identical conditions and uses substantially identical metallocene catalyst compositions as that of the working examples disclosed in the instant specification, thus, Kawai's copolymers with high enough butene content are also expected to inherently substantially identical to those of the instant claims. Once a product appearing to be substantially identical is found and a 35 USC 102/103 rejection made, the burden of proof is shifted to the applicant to show an unobvious difference. In re Fitzgerald, 205 USPQ 594. In re Fessmann, 180 USPQ 324. Applicants have not met their burden to demonstrate an unobvious difference between the claimed product and the products of the prior art examples.

Therefore, it would have obvious a skilled artisan at the time of the invention to prepare a propylene-butene copolymer with increased butene content compared to Kawai's Example 38, and thus to provide a copolymer with lowered crystallinity and melting temperature since such is within the scope of Kawai's teaching and in the absence showing of any criticality and unexpected results.

#### ***Response to Arguments***

4. Applicant's arguments filed September 5, 2007 have been fully considered and the objection to the specification and rejections under 35 USC 112 and 102 are withdrawn in view of applicants' amendments. However, the rejection under 35 USC 103 of claims 1 and 10 are maintained as shown above.

Applicants argue that the comparison between Example 3 and Comparative Example 3 disclosed in specification provides unexpected decrease of half crystallization time. However, the metallocene catalyst used to prepare the copolymer of Comparative Example 3 is not included in Kawai's catalyst composition. Since propylene/butene copolymers prepared by different metallocene catalysts are not always have the same stereoregularities, Comparative Example 3 disclosed in the instant application is not representative of Kawai's copolymers. To rebut a prima facie case of obviousness, applicant must compare his claimed invention to the closet prior art. In re Merchant, 575 F. 2d 865, 869, 197 USPQ 785, 788 (CCPA 1978). Therefore, applicant's showing is not probative of any Patentability.

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In view of the foregoing, the rejection under 35 USC 103 is still deemed proper and thus maintained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.

A handwritten signature in black ink, appearing to read 'Caixia Lu', with a stylized, cursive script.

Caixia Lu, Ph. D.  
Primary Examiner